



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,927	12/19/2001	Nobuyasu Yamaguchi	217195US2	9839
22850	7590	10/05/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER HAILE, FEBEN	
			ART UNIT	PAPER NUMBER
			2663	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/020,927	YAMAGUCHI ET AL.	
	Examiner	Art Unit	
	Feben M. Haile	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                                      |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                          | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/19/01 11/18/02</u> | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 7-8 recite the limitation "said information generating means". There is insufficient antecedent basis for this limitation in the claim.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kato (US 5,844,918), hereinafter referred to as Kato.

**Regarding claim 1**, Kato discloses packet disassembly means for disassembling transmission data packet into a plurality of blocks (**figure 8 unit 14 and column 9 lines 18-19; a segmentation circuit divides data into segments**); error detection code attaching means attaching an error detection code to each of the blocks (**figure 8 unit 16 and column 12 lines 19-23; an error detecting code addition circuit provides each data segment with a CRC code**); and transmitting means for transmitting the blocks having the error detection code attached and re-transmitting designated blocks designated by retransmission information from an outside source (**figure 8 units 24 and 26 and column 9 lines 37-44; a transmit/receive circuit sends the segments to**

a receiver and a retransmission request circuit processes requests for the retransmission request of certain segments).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato (US 5,844,918), hereinafter referred to as Kato in view of Balachandran et al "High-Rate Packet Data Service for North American TDMA Digital Cellular Systems", hereinafter referred to as Balachandran.

**Regarding claim 2**, Kato discloses the limitations of base claim 1.

Kato fails to teach prioritizing means for attaching an order of priority to each of the blocks produced by the packet disassembly means and coding means coding the blocks having the error detection code attached, by employing an error correction coding method compatible with the order priority, before supplying the blocks to the transmitting means

Balachandran discloses retransmittable blocks are given priority over new data blocks (**page 43 lines 2-5**) and the segment with added CRC is encoded using a convolutional encoder (**page 42 lines 16-19**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. The

Art Unit: 2663

motivation being flexible, high-performance medium access control and radio resource management procedures for high-rate packet data services.

**Regarding claim 3**, Kato discloses receiving means receiving blocks produced by disassembling a data packet (**figure 8 unit 28 and column 9 lines 48-50; a transmit/receive circuit receives all of the divided data**); error detecting means for detecting an error in the received block (**figure 8 unit 29 and column 11 lines 63-66; a first error detecting circuit detects errors in each of the segmented data using the CRC code**); and retransmission information generating means for generating information relating retransmission the received block in accordance with a result of error detection by said error detecting means (**figure 8 unit 28 and column 9 lines 48-50 and column 12 lines 8-11; a transmit/receive circuit receives and transmits retransmission requests**).

Kato fails to teach packet recovering means for recovering the data packet by combining a plurality of received blocks.

Balachandran discloses a receiver attempting to decode data if all the blocks corresponding to a particular segment have been received (**page 43 lines 16-17**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. The motivation being flexible, high-performance medium access control and radio resource management procedures for high-rate packet data services.

**Regarding claim 4**, Kato discloses the limitations of base claim 1.

Kato fails to teach transmission path status estimating means for estimating a status of a transmission path for transmitting the blocks and process information generating means for generating process information requesting processes compatible with a result of estimation by said transmission path status estimating means.

Balachandran discloses the receiver provides channel quality feedback information (**page 41 lines 11-13**) and the transmitter chooses modulation schemes for subsequent data transfer according to the information (**page 41 lines 25-26**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. The motivation being the same as independent claim 3.

**Regarding claim 5**, Kato discloses error correcting means subjecting the received block from said receiving means to an error correction process and outputting the received block subjected to the error correction process to said error detecting means (**figure 8 units 29, 30, & 33 and columns 11 line 67-column 12 line 8**), and a re-encoding error rate calculated by said error correcting means (**column 14 lines 47-56**).

Kato fails to teach wherein said transmission path status estimating means estimates the status of the transmission path based on at least one of a signal to interference noise power ratio (SIR) of a received signal detected by said receiving means.

Balachandran discloses the channel quality feedback is based on the signal-to-interference-plus-noise ratio (**page 41 lines 27-29**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. The motivation being the same as independent claim 3.

**Regarding claim 6**, Kato discloses the limitations of base claim 1.

Kato fails to teach wherein said retransmission information generating means and said process information generating means form integral information generating means for generating an index code including retransmission information and process information, the index code being mapped into a combination of an indication of a need or a lack thereof for retransmission, and a requirement for processes related to retransmission.

Balachandran discloses once the receiver successfully downloads a segment, a bitmap is generated, which includes an acknowledgment status, for providing ARQ feedback **(page 44 lines 2-23)**.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. The motivation being the same as independent claim 3.

**Regarding claim 7**, Kato discloses the limitations of base claim 1.

Kato fails to teach wherein said information generating means provided with a table that maps index codes into combinations of an indication of a need or a lack thereof for retransmission, and a requirement for processes related retransmission, and wherein the index code generated using the table.

Balachandran discloses once the receiver successfully downloads a segment, a bitmap is generated, which includes an acknowledgment status, for providing ARQ feedback (**page 44 lines 2-23**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. The motivation being the same as independent claim 3.

**Regarding claim 8,** Kato discloses the limitations of base claim 1.

Kato fails to teach wherein said information generating means is provided with a table defined for each of different types of transmission

Balachandran discloses once the receiver successfully downloads a segment, a bitmap is generated, which includes an acknowledgment status such as ACK or NAK, for providing ARQ feedback (**page 44 lines 2-23**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. It would have been obvious to one having ordinary skill in the art at the time the invention



Art Unit: 2663

was made to modify Kato to incorporate the teachings of Balachandran. The motivation being the same as independent claim 3.

Regarding claims 9 and 10, Kato discloses packet disassembly means for disassembling a transmission data packet into a plurality of blocks (**figure 8 unit 14 and column 9 lines 18-19; a segmentation circuit divides data into segments**); error detection code attaching means for attaching an error detection code to each of the blocks (**figure 8 unit 16 and column 12 lines 19-23; an error detecting code addition circuit provides each data segment with a CRC code**); and transmitting means for transmitting the blocks having the error detection code attached and retransmitting designated blocks designated by retransmission information from an outside source (**figure 8 units 24 and 26 and column 9 lines 37-44; a transmit/receive circuit sends the segments to a receiver and a retransmission request circuit processes requests for the retransmission request of certain segments**), and said receiver comprising: receiving means receiving blocks produced by disassembling a data packet (**figure 8 unit 28 and column 9 lines 48-50; a transmit/receive circuit receives all of the divided data**); error detecting means for detecting an error in the received block (**figure 8 unit 29 and column 11 lines 63-66; a first error detecting circuit detects errors in each of the segmented data using the CRC code**); and retransmission information generating means for generating information relating to retransmission of the received block in accordance with a result of error detection by said error detecting means (**figure 8 unit 28 and column 9 lines**

**48-50 and column 12 lines 8-11; a transmit/receive circuit receives and transmits retransmission requests).**

Kato fails to teach packet recovering means for recovering the data packet by combining a plurality of received blocks.

Balachandran discloses a receiver attempting to decode data if all the blocks corresponding to a particular segment have been received (**page 43 lines 16-17**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kato to incorporate the teachings of Balachandran. The motivation being flexible, high-performance medium access control and radio resource management procedures for high-rate packet data services.

### ***Conclusion***

**4.** The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a)** Kim et al. (US 2002/0093937), Data Transmitting/Receiving Method in HARQ Data Communication System
- b)** Itoh et al. (US 20050210355), Retransmission Ordering Method, Wireless Communication System, Receiver and Transmitter
- c)** Sudo (US 20040255220), Method of Data Retransmission in Multi-Carrier Transmission and Communication Apparatus Having Data Retransmission Control Device
- d)** Yamamoto et al. (US 20040153766), Communication System, Transmission Device, Reception Device, and Communication System Having Them

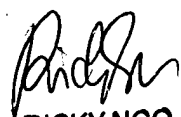
Art Unit: 2663

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ft 09/29/2005

  
RICKY NGO  
PRIMARY EXAMINER

8/20/05